ISO 9000 - What Is It? Where Do You Get It?

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The importance of supplier-customer relationships

One popular definition of quality is ‘fitness for purpose’, but the full implications of this definition have taken quite a long time to sink into the minds of the general public.

Some years ago manufacturers also had a rather casual outlook on quality and would frequently put up with suppliers who had poor delivery performance, and wrong or substandard goods. Manufacturers were inconvenienced by these things, of course, but usually did very little about it, considering it to be part of the normal hazards of doing business. It was the norm to have poor quality.

Thankfully, times have changed! The general public has become more discerning; they now purchase items with very clear expectations of quality and reliability.

Manufacturers, whether their product is a motor vehicle or a bottle of wine, realize that they must deliver something that looks good, something that meets the expectations of the purchaser and something that will continue to meet their expectations.

But further than that, manufacturers realised that in order to be viable in this new competitive market environment they must have reliable suppliers. They cannot accept late deliveries that will disrupt their production and delivery schedules. They cannot accept faulty parts because this is very costly to them and has a crippling effect on their profitability.

The quality management system

Effectively achieving these new expectations for quality requires a very organized approach and ISO 9000 was developed to provide the basis for this. A quality management system built on the requirements of ISO 9000 gives customers, suppliers and manufacturers the assurance that all aspects of quality are being dealt with in an organized and efficient manner.

The end result is that customers receive what they expect to obtain when they hand over their hard earned dollars. They also know that the product they have purchased is supported by an organization that is attuned and sensitive to their needs on an on-going basis.

In order to fulfill the requirements of customers, manufacturers must of course control their operations and processes but that in itself is not sufficient if they have no control over or confidence in those who supply them with their raw materials, parts and components.

To summarize what I have said up to this point; whichever part of the supply chain you occupy, if you cannot supply a quality product consistently, on time and of course economically you simply will not be competitive and your future will be uncertain. These are the hard facts - the reality. Quality is no longer a luxury but a necessity.

What is ISO 9000?

ISO 9000 represents a series of internationally recognized standards that when adhered to provide the framework on which a comprehensive quality management system can be built.

However, the successful introduction and on-going success of a quality system requires the full support of all persons within the company. For this reason it is essential that instruction and training be given to all employees so that each of them understands what it means to have a quality system and why it is so important. Unless all employees clearly understand these issues there is unlikely to be full support for the task ahead. The development of a quality system therefore does not just involve documentation but requires the involvement of people.

In my own experience the major cause of problems in implementing a quality system is the failure of management to educate their employees fully to understand what ISO 9000 is all about and what it will mean to them.

I will briefly describe how the idea of quality systems began. Quality management systems originated in the military industries where the concept of supplier assessments was common. Previously, the problem with supplier assessment had been that a particular company may have been a supplier to many other companies, each of which would want to audit them from time to time to satisfy themselves of their reliability. Hence such suppliers would be constantly audited by each of their customers.

The first attempt at a national system which would allow a single third party organization to assess suppliers was by means of the BSI in the UK, who developed the BS 5750 standard. ISO 9000 is in fact the international equivalent of BS 5750, known in Australia as AS 3900.

How do you develop a quality management system?

The concept of a quality management system goes far beyond traditional quality control, which just involves operational techniques and activities aimed at monitoring processes and eliminating causes of nonconformance.

ISO 9000 lays down the essential requirements governing all the fundamental elements necessary to provide assurance and confidence in the overall quality of the company.

The questions most often confronting companies about to embark on the process of implementing a quality system are where to start and what are the various steps necessary to achieve this aim. A gain I can speak from experience here in saying that a large proportion of companies who approach Standards Australia have little idea of how to proceed.

Implementing a quality system can be likened to assembling something that you purchase in kit form—like a child's bicycle, for example. We all know what the assembled bicycle looks like, but without the instructions we have no idea on which part to start and what the next step is. Often if we do not proceed in the correct sequence we run into problems and may need to start over again.

So what is the correct sequence of events in assembling a quality system?

The Quality Policy

Firstly you need to establish a Quality Policy for the company. This is the foundation on which the whole system is based. The company must decide and then document what its overall aims are in regard to quality and must then ensure all persons with-

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in the organization understand and cooperate in the achievement of these aims.

**The Quality Manual**

Next you need to establish policies for each of the elements of the appropriate ISO 9000 standard. ISO 9000 consists of three standards:

1. **ISO 9003** dealing with quality assurance in final inspection and test. This is usually appropriate for product distributors who merely purchase and resell.

2. **ISO 9002** dealing with quality assurance in production and installation. This is the standard most adopted by manufacturing companies.

3. **ISO 9001** dealing with quality assurance in design/development, production installation and servicing. This standard is very similar to ISO 9002 but is more appropriate to companies involved in design/development and servicing.

So if your company decides, for example, that ISO 9002 is most appropriate for what you do, then you need to develop policies in regard to each of the 18 elements of this standard. These policies are different from your overall Company Quality Policy. These policies are an interpretation of the requirements of ISO 9002 in terms of how they are to be applied within your company. These policies are usually combined into one volume, often called the Quality Manual.

**Quality System Procedures**

The next step in the implementation of your system of documentation is to develop quality system procedures. ISO 9000 requires that most elements of the standard be supported by such procedures that take your policies for each of these elements one step further.

A popular way of preparing such procedures and the more detailed working instructions is to simply go to the people who are actually doing the job or task and ask them to document what they do. The quality system coordinator may then take these and simply tidy them up and convert them to a common format.

Just one word of warning, before documenting what people actually do make sure that they are following the policies that you have laid down for your quality system in your quality manual. Often procedures completely contradict what has been stated in the Quality Manual and if this occurs your system will certainly not comply with ISO 9000.

**Forms, records and other related documents**

Your procedures and working instructions will refer to the necessity to record information on various forms and to keep records of certain essential information. This also forms part of your documented system.

**Simplicity**

When preparing your quality system documentation do not make it too complicated—keep it simple. Remember, your system must be a servant to you not a millstone around your neck. Employees will willingly adopt the system if it can be easily understood but will tend to bypass it and make mistakes if it is unnecessarily complicated.

**Putting theory into practice**

While you are preparing the documentation which describes how the system is to work you will need to start putting theory into practice.

A's already mentioned training in quality awareness is vital both before and also whilst introducing and implementing your system. You need a documented system but it is also essential that all employees follow these instructions and policies.

Due attention to this phase of the program is often lacking—we frequently visit organizations that have done a fine job of documenting the system but find unfortunately that the employees are very unfamiliar with its requirements.

Your organisation will not fully benefit from its investment in time and energy introducing the quality management system if you do not ensure that it is actually being used in practice to the full.

To be effective it must be a living, breathing system, with all persons in the company contributing to its success.

**Certification**

When you have completed the task of fully implementing your quality management system you will of course want it to be internationally recognized. To achieve this you will need to approach an accredited Certifying Body such as Standards Australia and ask them to audit your company.

The Certifying Body will usually carry out an initial desktop review of your Quality Manual and later conduct a pre-assessment, the purpose of which is to alert you to any areas that still require attention and to plan the date of the formal audit.

At the audit itself the Certifying Body will assess your company by going systematically through each element of the standard to see if your documentation and actual practices comply with these requirements. If only minor nonconformances are identified at this audit your company will be recommended for certification provided that you can indicate what timely actions you intend to take to eliminate these minor nonconformances.

**Certification achieved**

How will your company operate now that it has adopted the requirement of ISO 9000? Let us briefly look at what we would expect.

**Contract review and design control**

Customers' orders and enquiries are carefully scrutinized to ensure that you are perfectly clear as to what they require. You will also want to be absolutely sure that you can fulfil all the requirements of the customer. Do you have the expertise required? Are the manpower and are raw materials available? Can you produce the product on time? Is this a simple order or is some form of design and development involved? If design or development is involved, have you clearly established what the customer's conceptual requirements are?

All these issues need to be clearly established well before you commence work. It will be an expensive mistake to make a product only to find later that you had misunderstood the customer's requirements. Your customer will certainly not be impressed either.

**Planning and purchasing**

You will next need to plan your production and this will involve the procurement of the necessary raw materials and various other items such as bottles, labels, corks and packaging materials as well as subcontracted bottling facilities, if required.

But, as a company certified to ISO 9000, you will have in place a system of Approved Suppliers and Subcontractors which meet your requirements, including quality considerations, so it will be a relatively simple task to arrange for the supply of the necessary items.
Receiving inspection and testing
Those receiving the goods you have purchased will have information available to them regarding inspection and test requirements. Nonconforming goods will be clearly identified as such and will ultimately be examined and a decision made regarding disposition.

Process control
The specifications for the products you manufacture will be well controlled in order to ensure that no errors occur.

The sequence of operations will probably be clearly set out in quality plans and the control requirements for each process will be well defined. You will be particularly careful to determine the critical elements in the process and the various control limits.

Process workers will, of course, be suitably trained but will also have available to them the necessary working instructions and workmanship standards required to guide them in determining acceptable product quality.

Inspection and testing
At various stages in the manufacturing process you will need to verify that your product still conforms to specifications. This verification may take the form of inspections, tests and measurements using equipment that you have carefully selected to ensure it is capable of the accuracy required. If the measurement made with this equipment is likely to have an impact on product quality you will no doubt control it by means of a system of calibration.

A II product that has been verified will also have its status made clear so as not to mix untested items with tested items or nonconforming items.

Continuous improvement
One of the most noticeable differences within your company will be that quality has become dynamic and no longer static and unadaptable to changing requirements. The quality system will be instrumental in the process of continuous improvement.

The reason for this is that at least two of the clauses of ISO 9000, Management Review and Corrective Action, require that you carefully assess the root causes of the problems with the aim of preventing recurrence.

As busy individuals we are usually annoyed when quality problems occur because they take up our time and our human tendency is to try and fix the problem as quickly as possible so that we can get back to what we were doing before the problem made its appearance. We often call this the band-aid approach because it fixes the immediate problem but not the cause. Hence it is quite likely that the same problem will occur again and again. Ultimately we consume a great deal of time without achieving the desired result – the elimination of the problem.

ISO 9000 requires that we investigate significant nonconformances such as customer complaints, process deficiencies and quality system failures in order to seek out the fundamental cause and then to ensure that suggested corrective actions are effective in eliminating the problem.

This will result in a continuous improvement process that will result in productivity improvement, improved customer relationships and better profitability.

Conclusion
An organization that has successfully achieved certification to ISO 9000 may have found the process much more difficult than originally imagined – it is certainly not easy to put in place a system that will fully address the requirements of this standard and at the same time ensure that all employees are following it.

One of the first questions companies ask when contemplating quality certification is ‘How much will it cost me?’ Ultimately companies will without doubt save money through improved sales, better customer relations, fewer rejects and less rework. So in the long run it will not cost you but instead save you a great deal of money. But perhaps a more appropriate response to the question, ‘Can I afford it?’ should be ‘If you wish to remain competitive and profitable then you cannot afford not to have a quality management system’.

Marketing
Marketing plays a dominant role in maintaining customer focus in a total quality management organization. At the interface with the customer, the marketing function determines customers’ needs and customers’ satisfaction with the products and services supplied. Opportunities for improvement could include the processes for:

- determining customers’ needs and preferences
- measuring customer satisfaction
- making competitive evaluations and benchmarking
- creating impact and credibility in advertising

Conclusion
Judging by an article which appeared in the Melbourne Age, 4 September 1993, the Australian wine industry has been competing very successfully on quality. In explaining why exports of Australian wine have grown by 1,000% in just six years the article identified the following causes:

- long term planning
- technological superiority
- development of export infrastructure and marketing initiatives, and
- production of better wine more cheaply.

Apparently, strong customer focus and careful strategic planning are two Total Quality Management concepts already at work in the wine industry. The results are evident in the quality and competitiveness of Australian wine.

The Australian wine industry has been remarkably successful up to now. Quality management could help make it even more successful in the future.